Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC

In the Matter of	)	
	)	
The Commission's Consultative Role in the	)	**GN Docket No. 09-40**
Broadband Provisions of the Recovery Act	)	

COMMENTS OF THE FIBER-TO-THE-HOME COUNCIL
IN RESPONSE TO REQUEST FOR INFORMATION

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TABLE OF CONTENTS

Page

SUMMARY

The Fiber-to-the-Home ("FTTH") Council is a non-profit organization dedicated to educating the public and government officials about FTTH and to promoting and accelerating FTTH deployment and the resulting quality of life enhancements FTTH networks make possible. The FTTH Council's members, including approximately 150 service providers, represent all areas of the broadband access industry, including telecommunications, computing, networking, system integration, engineering, and content-provider companies, as well as traditional service providers, utilities, and municipalities.

At the beginning of the American Recovery and Reinvestment Act of 2009 ("ARRA"), the "economic stimulus" purposes and principles of the legislation are clearly enunciated, and these are reiterated in the March 20, 2009 *Presidential Memorandum*. Therefore the NTIA should give priority to broadband projects that create the most jobs, deploy infrastructure that provides long-term economic benefits, and can be initiated promptly by experienced entities. There is substantial evidence to support the conclusion that deployment of FTTH infrastructure (in unserved and underserved areas) best fits these ARRA objectives.

The FTTH Council believes that "broadband service" and "unserved" and "underserved" areas should be defined based on: (1) the economic stimulus objectives of the ARRA; (2) the policy objective of ensuring there is universal access to broadband services; and (3) the type of broadband service that is being offered in the market today and during the period when the grants will be awarded and funding expended. Accordingly, it proposes that unserved areas be defined as those where a significant number of customers lack access to at least current generation (6 Mbps/1.5 Mbps) broadband service. As for underserved areas, it proposes these include areas where a significant number of customers lack access to a competitive provider of current generation broadband service or any provider of advanced broadband service (25 Mbps/ 6 Mbps). By using these definitions, grants should be awarded to projects for deployments of more advanced broadband networks, which should be beneficial to the creation of jobs and the development of infrastructure with long term benefits.

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The Fiber-to-the-Home Council ("FTTH Council"), through its undersigned counsel, hereby respectfully submits its comments to the Federal Communications Commission ("FCC" or "Commission") in response to the March 24, 2009 Public Notice for comments ("Notice")[1] on the Commission's role in consulting with the National Telecommunications and Information Administration ("NTIA") to implement the Broadband Technology Opportunities Program ("BTOP" or "Program") in the American Recovery and Reinvestment Act of 2009 ("ARRA").[2]

The FTTH Council is a non-profit organization established in 2001. Its mission is to educate the public and government officials about fiber-to-the-home ("FTTH") and to promote and accelerate FTTH deployment and the resulting quality of life enhancements FTTH networks make possible. The FTTH Council's members represent all areas of the

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1 *In the Matter of the Commission's Consultative Role in the Broadband Provisions of the Recovery Act,* GN Docket No. 09-40, Rel. March 24, 2009.

2 The BTOP is established in Section 6001 of the ARRA.

broadband access industry, including telecommunications, computing, networking, system integration, engineering, and content-provider companies, as well as traditional service providers, utilities, and municipalities.[3] The FTTH Council is submitting to the NTIA today comments consistent with those submitted herein. To address the issues raised in the Notice, the FTTH Council believes it is essential to place them in the context of the objectives of the ARRA and the deployment of infrastructure with long-term benefits.

I. NTIA Broadband Technology Opportunities Program

A. The Broadband Grant Program: A Unique Opportunity to Invest Federal Funds in Future-Proof Infrastructure

For years, the United States has been slipping behind other countries in deploying broadband networks and services. The Information Technology & Innovation Foundation in 2008 ranked the United States 15th, lagging many Asian and European countries.[4] The Organization for Economic Co-operation and Development reached a similar conclusion,[5] and the just issued report from Akamai found that the United States ranked 17th in average internet access speed.[6]

More importantly, other countries are not standing still. Instead, they recognize that advanced broadband infrastructure is fundamental to their ability to foster business

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3 As of today, the FTTH Council has more than 200 entities as members. A complete list of FTTH Council members can be found on the organization's website, http://www.ftthcouncil.org.

4 *See*, http://www.itif.org/files/2008BBRankings.pdf. The ITIF rankings are based on penetration, speed, and price.

5 *See,* http://www.itif.org/files/BroadbandRankings.pdf.

development and economic growth and are accelerating their efforts to build these networks. Australia, for instance, just announced a program to spend $31 billion to bring FTTH – with internet access at 100 megabits per second -- to 90% of the nation's households and workplaces in the next eight years. This FTTH project will support up to 25,000 jobs on average for each year of the deployment.[7]

Fortunately, the federal government has begun to react to our flagging position with the ARRA and the new broadband programs. We have an opportunity to begin our effort to keep pace with other countries and achieve the President's objective of promoting "next-generation [broadband] facilities"[8] by spending these funds on "future-proof" infrastructure, such as FTTH, which can be upgraded readily without major new construction and which provides long-term benefits for residents, businesses, and our economy as a whole. This should be the vision for NTIA and the Commission as they implement the BTOP.

B. The Purposes of the Grant Program: Projects that Further Economic Growth and Job Creation Take Precedence.

At the beginning of the ARRA, the purposes and principles of the legislation are clearly enunciated:

- "Preserve and create jobs and promote economic recovery."
- "Invest in…infrastructure that will provide long-term economic benefits."

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6 *See*, http://www.akamai.com/html/about/press/releases/2009/press_033009_1.html.

7 *See*, http://www.pm.gov.au/media/Release/2009/media_release_0903.cfm.

8 *See*, http://www.barackobama.com/pdf/issues/FactSheetScience.pdf.

- "[Commence] expenditures and activities as quickly as possible consistent with prudent management."[9]

These purposes – "stimulating economic growth and job creation" -- are later echoed in the *Conference Report* on the provision establishing the BTOP.[10] Moreover, the March 20, 2009 Memorandum from the President, *Ensuring Responsible Spending of Recovery Act Funds*, states that "merit-based selection criteria...shall be formulated to ensure that the funding furthers the job creation, economic recovery, and other purposes of the Recovery Act."[11] The NTIA accordingly should give priority to broadband projects that:

- Create the most jobs;
- Can be initiated promptly by an experienced entity; and
- Deploy infrastructure that spurs economic development.

There is substantial evidence to support the conclusion that deployment of FTTH infrastructure (in unserved and underserved areas) best fits these objectives. First, in terms of immediate jobs and economic output, FTTH deployments are enormous construction projects, involving far more outside plant work than other technologies.[12]

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9 Public Law 111-5, Section 3 (a)(1), (a)(4), (b).

10 *See, Summary, Division B, Title VI, Broadband Technologies Opportunities Program, Conference Report on H.R. 1, American Recovery and Reinvestment Act of 2009*, February 12, 2009. ("*Conference Report*")

11 *Memorandum for the Heads of Executive Departments and Agencies, Subject: Ensuring Responsible Spending of Recovery Act Funds*, The White House, released March 20, 2009, Sec. 1.

12 This conclusion is supported in the *Grant Distribution Considerations and Broadband Speed, Title VI* section of the *Conference Report*, which provides, "The Conferees are also mindful that the construction of broadband facilities capable of delivering next-generation broadband speeds is likely to result in greater job creation and job preservation than projects centered on current-generation broadband speeds."

This conclusion is supported by a recent study by the economic consulting firm Empiris, LLC, which was commissioned by the FTTH Council, on the economic effects of tax incentives for the deployment of broadband infrastructure. (A full copy of the report is appended to these comments.) Of particular relevance to the discussion here, the report states:

> [A] majority (54 percent) of capital spending required in outside plant build-out for FTTH is spent on construction. This heavy reliance on construction for FTTH is due in large part to the burying of new infrastructure in the ground...$1 million of investment in FTTH deployment will result in almost 20 jobs, whereas a million dollars of investment in wireless broadband will result in fewer than 15 jobs. This is largely due to our estimate that only 7 percent of wireless broadband capital expenditures go to the construction industry.

In addition to the immediate benefits of creating economic growth and jobs, in terms of economic development, FTTH deployments provide by far the most capabilities (through higher symmetrical bandwidth) for customers to send and receive data and video, and these networks are "future-proof." Once the fiber is installed, upgrading the capabilities of the network is readily accomplished by changing the electronics. In addition, fiber networks are most valuable to businesses, which increasingly demand dedicated amounts of bandwidth, and to their employees.[13] As the former Mayor of Ft. Wayne, Indiana, Graham Richard, stated on March 16, 2009, at a meeting of the National League of

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13 A 2007 survey sponsored by the FTTH Council found that "a substantial portion of Americans who get their home Internet services through direct fiber optic connections are using those services to telecommute an average of one-third of the time or to run their own home-based businesses," *See*, http://www.ftthcouncil.org/?t=262.

Cities, "If you don't have [FTTH], [companies] won't invest in your city. [Broadband deployment] is just as important as public safety, water and sewer systems."[14]

C. Defining Unserved and Underserved Areas and Broadband Service

In the Notice, the Commission asks for comments on defining critical terms: unserved and underserved areas and the broadband service. Neither the statute nor the *Conference Report* provides any insight into how these terms are to be defined, and the report merely instructs the NTIA to consult with the FCC. Of these two terms, an unserved area is somewhat easier to define – that is, the natural reading of the term is that it is an area without any broadband service. Two questions then arise: what is broadband service in this context, and what number of customers in an area need to receive that service for the area to be declared served? The FTTH Council submits that, for unserved areas, the aim of the BTOP should be to provide on a universal basis at least the same type of broadband service most generally available in served areas. For wireline and other fixed broadband service, there is sufficient evidence to conclude that the "current" generation broadband service that is generally available in served areas has at least the following performance characteristics: 6 Mbps (Rate Code 6) downstream and 1.5 Mbps upstream (Rate Code 4).[15] (The FTTH Council believes the information collected by the

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14 *See TR Daily, Local Involvement Urged in ARRA Grant Program*, March 16, 2009. It should be noted that Mayor Richard stated that job creation was the "number one" benefit from FTTH deployment.

15 The FTTH Council submits that providing an objective measure of broadband performance is essential to the success of the BTOP. It will enable the agency to judge applications on their merits, and, just as importantly, ensure that entities receiving grants are properly monitored. While determining performance by broadband speed alone may not be optimal, there is no other objective standard. Moreover, it is the standard by which current broadband service providers

. . .*Continued*

FCC in its FCC Form 477 will be relevant to the NTIA as it reviews applications and therefore links its recommended performance characteristics with the FCC's Rate Codes.) There is considerable evidence to support this conclusion. For instance, a recently issued report from the consulting firm, Point Topic, found that that in the 4th quarter 2008 the average cable download speed was 9.7 Mbps, while the digital subscriber line ("dsl") speed was 3.9 Mbps.[16] This is supported by examining the offerings of individual providers. Cox's Preferred service has speeds of 10 Mbps downstream and 2 Mbps upstream.[17] Verizon, for its dsl service, routinely offers between 3-7 Mbps downstream and approximately 1 Mbps upstream.[18] It is thus not surprising that a just published New York Times article reported, "The United States has an average [downstream] speed of 5.2 Mbps."[19] Finally, it should be noted that similar speeds (5 Mbps/1 Mbps) were included in the House passed ARRA legislation (H.R. 629) in its definition of basic broadband service.[20]

As for the second issue of the "sufficiency of current generation service" – that is determining how many customers in an area need to lack access to broadband service for the area to be declared unserved -- the FTTH Council submits that the objective of the

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advertise and offer their services – and it is the standard used in the *Conference Report*.

16 Data supplied by Point Topid Ltd. *See*, http://point-topic.com/.

17 *See,* http://ww2.cox.com/residential/connecticut/internet/preferred-internet.cox.

18 Verizon offers a Power Plan (3 Mbps/768 Mbps) and a Turbo Plan (7.1 Mbps/ 768 Mbps) *See,* http://www22.verizon.com/Residential/HighSpeedInternet/Plans/Plans.htm.

19 *See,* http://bits.blogs.nytimes.com/2009/03/10/the-broadband-gap-why-is-theirs-faster/.

20 Sec. 1002(j)(3).

Program should be to have "universal" broadband service. One methodology to define "universal" is to examine the current nationwide reach of broadband service and use that as a benchmark. In that regard, the Commission, in a January 2009 report, found that people in 9% of the zip codes in the United States do not have access to either cable modem or dsl.[21] This statistic is supported by the cable industry, which just stated that cable operators reach over 90% of the households in the United States.[22] Thus, there is sufficient evidence to conclude that a Census Tract should be declared unserved where more than 10% of the customers lack access to broadband service. The FTTH Council has proposed in its rules and comments submitted for the Rural Utilities Service program a slightly more conservative approach -- a standard of "20% lacking access" -- but it does not object to the more rigorous approach to ensuring universal service. This will ensure that broadband service is brought to almost all users in the country.

> *Unserved Area* means a geographic area described by Census Tracts where more than 20% of the customers (either residential or business or both) to be served by the project currently lack access to a provider of Broadband Service.[23]

Defining underserved areas is more challenging. As noted above, neither the statute nor the *Conference Report* nor the original House and Senate bills provides any indicia of Congressional intent. Some context for the meaning of the term can be gleaned from the purpose of the statute – "provide improved access to broadband service" – and

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2121 *High Speed Services for Internet Access: Status as of December, 31, 2007, Industry Analysis and Technology Division*, Wireline Competition Bureau, Federal Communications Commission, January 2009 at Table 16.

22 *See, Moving the Needle on Broadband* at http://www.ncta.com/PublicationType/WhitePaper/Moving-the-Needle-on-Broadband.aspx.

23 Either current generation or advanced broadband service.

from statutory criteria for awarding grants – "provide the greatest possible speed" and "increased affordability."[24] There is precedent for using in the definition both the concept that an underserved area is one where access to advanced broadband service is insufficient and where there are select groups of customers needing more affordable access to broadband service. For instance, the concept of insufficient access to advanced broadband service is used in the definition of underserved adopted for the California Advanced Services Fund grant program and in broadband tax legislation introduced this year in the U.S. House of Representatives.[25] Other broadband tax legislation introduced this year in the House and Senate keys the term to groups of customers where affordability is a concern.[26]

Because the overall purpose of the ARRA is to stimulate the economy and provide long-term infrastructure, the FTTH Council encourages the NTIA and Commission to adopt a definition for underserved areas that would enable projects that achieve those essential economic stimulus objectives – and that melds them with the two concepts of bringing sufficient access to advanced broadband service to areas and in ensuring affordable access by select groups of customers. Accordingly, the FTTH Council believes the definition of underserved area should be the following:

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24 Sec. 6001(b)(2) and (h)(2)(A) and (B). The FTTH Council believes that any affordability standard needs to be judged on the basis of the performance of the broadband service required, and, in the application scoring system discussed later, uses the concept of cost per service as represented by performance speed (megabit per second).

25 *Resolution T-17143. Approval of the California Advanced Services Fund (CASF) Application Requirements and Scoring Criteria for Awarding CASF Awards*, Public Utilities Commission of the State of California, June 12, 2008, p.6. H.R. 760, Advanced Broadband Infrastructure Bond Initiative of 2009, 111th Congress.

26 *See,* S. 350, Sec. 48D(e)(24), and H.R. 691, Sec. Sec. 45R(c)(3).

Underserved Area means:
(1) a geographic area described by Census Tracts that is not an unserved area where more than 33% of the customers (either residential or business or both) to be served by the project currently lack access to more than one provider of Current Generation Broadband Wireline Service;
(2) a geographic area described by Census Tracts that is not an unserved area where more than 33% of the customers (either residential or business or both) to be served by the project currently lack access to a provider of Advanced Broadband Wireline Service;
(3) a geographic area described by Census Tracts where more than 25% of the Community Anchor Institutions to be served by the project currently lack access to a provider of Advanced Broadband Wireline Service; or
(4) any Census Tract that is located in (i) an empowerment zone or enterprise community designated under section 1391, (ii) the District of Columbia Enterprise Zone established under section 1400, (iii) a renewal community designated under section 1400E, or (iv) a low-income community designated under section 45D.[27]

The first part of the proposed definition – (1) – seeks to ensure affordability by encouraging greater competition for an entire area. The other parts – (2), (3), and (4) -- of the proposed definition are directed towards ensuring that most customers in general and key segments of the community in particular have "first-time" access to advanced broadband service. This part not only achieves a universal service objective but is most important in meeting the ARRA's economic objectives since it will foster the deployment of new advanced broadband networks, which as discussed above in the case of FTTH networks are significant generators of jobs and economic growth – as well as the construction of infrastructure with long-term benefits.

There are two terms used in the proposed definition that require elaboration – the definition of advanced broadband service and the issue of insufficient access to such

service. First, as to the definition of Advanced Broadband Wireline and other Fixed Service, the FTTH Council proposes the following definition:

> *Advanced Broadband Wireline and other Fixed Service* means providing on an advertised and generally available basis a dedicated service to each customer from the internet access node an information transfer rate equivalent to at least 25 megabits/second from the provider to the customer (downstream) and at least 6 megabits/second from the customer to the provider (upstream).

This definition is based on current performance characteristics for high-speed broadband services many customers receive or about to receive. (The downstream speed fits within Rate Code 8 of the FCC Form 477 and the upstream speed within Rate Code 6.) Verizon's FiOS network, for instance, today provides a 50 Mbps downstream – 20 Mbps upstream service,[28] and AT&T's U-verse today provides a 18 Mbps/1.5 Mbps service.[29] In addition,[30] Comcast offers a 50 Mbps/10 Mbps service;[31] Cablevision a 30 Mbps/5 Mbps service,[32] and Cox just launched a 50 Mbps/5 Mbps service.[33] These performance

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27 For both unserved and underserved areas, the agency should ensure that any existing provider is viable and that its service is sufficiently substitutable with the broadband service proposed in the application.

28 *See,* http://investor.verizon.com/news/view.aspx?NewsID=925.

29 *See*, http://www.att-services.net/att-u-verse/uverse-internet.html.

30 It should be noted that the performance metrics offered by cable operators are based on providing a shared service, that is a service where all customers do not receive these high-speeds simultaneously. In its proposed definition of advanced broadband wireline service, the FTTH Council provides that the 25 Mbps/6 Mbps performance requirements must be met by providing a dedicated service to ensure all customers receive the proposed speeds simultaneously.

31 *See*, http://www.cmcsk.com/phoenix.zhtml?c=118591&p=irol-newsArticle&ID=1215838&highlight=. Comcast's current, general high-speed offering is 16 Mbps/2 Mbps.

32 *See*, http://www.optimum.com/order/boost/.

33 See, http://sev.prnewswire.com/computer-electronics/20090401/CL9228901042009-1.html.

characteristics are, of course, snapshots of the current market, and, given the previous growth rates, the Agency and the Commission should conclude that even higher-speeds will be available in the next few years – when the networks built by the broadband stimulus grants are completed. There is thus sufficient evidence for the Agency and the Commission to conclude that advanced broadband service should be defined as at the least as 25 Mbps downstream – 6 Mbps upstream.

Additional support for this definition, reflecting recent Congressional intent, can be found in the definition for "advanced broadband service" used in the House version of the NTIA broadband stimulus program in the ARRA – "at least 45 megabits per second downstream and at least 15 megabits per second upstream."[34] While this definition was not included in the final bill, Congress required the NTIA to favor applications for grants that offered the "greatest possible broadband speeds."[35] Clearly, Congress understands that higher speeds provide the greatest capabilities for customers – in addition to leading to the greatest benefits in terms of economic growth and job creation. The FTTH Council would welcome the adoption of the definition provided by the House but also believes the definition provided above is sufficient to achieve the ARRA's intent.

The other term that requires elaboration is the threshold – 33% of the customers lacking access -- for triggering an area to be underserved. This determination should be driven by the overall objective of bringing to underserved areas the same level of service – that is, advanced broadband service -- found in served areas. For advanced broadband service, the major broadband providers will pass a majority of their customers in the next

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34 *See*, Section 1002(j), H.R. 629, 111th Congress.

year, and this level of access will continue to grow. In terms of a current snapshot, Verizon's FiOS network will pass approximately 18 million households by the end of 2010 – over 50% of the households it serves.[36] Comcast, the nation's largest cable company, advanced broadband service will be provided to approximately 10 million homes shortly.[37] Cablevision, another major cable operator, currently offers most of its customers its high-speed service.[38] AT&T's U-verse will pass approximately 55% of the households it serves by the end of 2010.[39] It is on this basis – of generally available advanced broadband service offered during the period when infrastructure using grant funding from the Program will be built -- that the FTTH Council submits that the area should be declared underserved if more than 33% of the customers lack access to advanced broadband service.

D. Non-Discrimination and Interconnection Contractual Conditions.

The statute requires the NTIA publish non-discrimination and network interconnection obligations, which at a minimum shall include the FCC's Wireline

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35 *See, Grant Distribution Considerations and Broadband Speeds, Title VI, Conference Report.*

36 *See,* http://investor.verizon.com/news/view.aspx?NewsID=925.

37 *See,* http://www.cmcsk.com/phoenix.zhtml?c=118591&p=irol-newsArticle&ID=1215838&highlight=. An article in *Communications Daily* on April 13, 2009 (p. 6) states that Comcast "is aiming to wire 65 percent of its footprint for wideband by the end of this year, and expects to complete the deployment by sometime next year."

38 *See,* http://www.optimum.com/order/boost/.

39 *See,* http://www.att-services.net/att-u-verse/uverse-internet.html and http://www.att.com/gen/investor-relations?pid=5711.

Broadband principles.[40] These obligations will be contractual conditions of grants. The *Conference Report* provides no additional commentary on the Conferees intent on this issue. The FTTH Council urges the NTIA and the Commission to act conservatively in implementing this requirement and limit the obligation to the FCC's principles for two primary reasons. First, the main purpose of the ARRA is to stimulate the economy, and the creation of a new set of obligations will take additional time, generate uncertainty, and potentially foster disputes – all of which will slow implementation. The FCC 's principles, in contrast, are a known quantity. Second, there is a consensus in the public and private sectors in support of the FCC's principles, and there is every indication that providers, with rare exception, live by them. The number of complaints brought for non-compliance have been minimal. In addition, there have been few complaints about practices of providers that may fall outside the principles. In sum, for this targeted program, the FTTH Council believes relying on current policies has real value.

II. Conclusion

The BTOP provides the Agency and the Commission with a great opportunity to achieve the economic stimulus aims of the ARRA and propel the deployment of broadband infrastructure that provide long-term benefits to residents and businesses – which in turn will enhance our international competitiveness. The FTTH Council believes that deployments of FTTH networks best meet these objectives, and it stands ready to assist the Agency and the Commission as they move forward in implementing this Program.

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40 FCC Docket No. 05-15, adopted August 5, 2005.

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